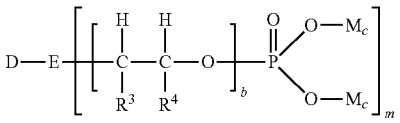
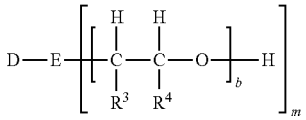
(VIII)



wherein said third polycondensate repeating unit of said polycondensation component is represented by Formula (IX):

(IX)



wherein in Formula (VIII) and Formula (IX) D is a substituted or unsubstituted heteroaromatic compound having 5 to 10 C atoms; E is N, NH or O; m is 2 if E is N and m is 1 if E is NH or O; R^3 and R^4 each, independently of one another, is a branched or straight-chain C_1- to C_{10}-alkyl radical, C_5- to C_8-cycloalkyl radical, aryl radical, heteroaryl radical or H; b is an integer from 0 to 300; M is an alkaline metal ion, alkaline earth metal ion, ammonium ion, organic ammonium ion and/or H, and c is ½ if M is an alkaline earth metal ion, or else c is 1; and wherein A, B, R^1, R^2, a, X, D, E, R^3, R^4, b, and M are each, independently of one another, identical or different among said individual first polycondensate repeating units.

6. The panel of claim **1** wherein said calcium sulfate dihydrate matrix comprises at least 50% by weight of all inorganic binder components in said panel body.

7. The panel of claim **1** wherein said foaming agent is a mixture of a first foaming agent which forms stable foam and a second foaming agent which forms unstable foam.

8. A method of making the panel of claim **1** comprising:

combining calcium sulfate hemihydrate, water, a foaming agent, a dispersant component and a polycondensation component to form a slurry with foam bubbles, wherein the ratio of said dispersant component to said polycondensation component is adjusted to control the foam bubble size;

depositing the slurry onto a conveyor;

forming the slurry into a panel with core voids of a predetermined size; and

allowing the calcium sulfate hemihydrate to hydrate and form a calcium sulfate dihydrate matrix.

9. The method of claim **8** wherein the foaming agent is in the form of a foam.

10. The method of claim **8** further comprising including an additive selected from the group consisting of a set accelerator, a set retarder, an anti-sag agent, a bonding agent, a dedusting agent, a foaming agent, a reinforcing material, a biocide and combinations thereof in the slurry.

11. A building panel comprising:

a panel body with core voids comprising:

a calcium sulfate dihydrate matrix;

a foaming agent;

a comb-branched polymer having polyether side chains; and

a polycondensation component comprising:

a first polycondensation repeating unit having a polyether side chain and one of the group consisting of an aromatic sub-unit and a heteroaromatic sub-unit;

a second polycondensation repeating unit having a $OP(OH)_2$ group and one of the group consisting of an aromatic sub-unit and a heteroaromatic sub-unit; and

a third polycondensation repeating unit having one of the group consisting of an aromatic sub-unit and a heteroaromatic sub-unit;

wherein said second polycondensation repeating unit and said third polycondensation repeating unit differ exclusively in that the $OP(OH)_2$ groups of said second polycondensation repeating unit are replaced by H in said third polycondensation repeating unit, and said third polycondensation repeating unit is not the same as said first polycondensation repeating unit; and

wherein the weight ratio of the comb-branched polymer having polyether side chains to the polycondensation component ranges from 1:99 to 75:25.

12. The building panel of claim **1**, wherein said dispersant component is naphthalene sulfonate-formaldehyde condensate, melamine sulfonate-formaldehyde condensate or mixtures thereof.

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